

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Cechan (nmi) Tian et al.
Serial No.: 10/695,711
Filing Date: October 29, 2003
Group Art No.: 2613
Confirmation No.: 5574
Examiner: Agustin Bello
Title: *Method and System for Increasing Network Capacity in an Optical Network*

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

REPLY BRIEF

Appellants respectfully submit this Reply Brief under 37 C.F.R. § 41.41 in response to the Examiner's Answer transmitted June 27, 2008. Appellants filed an Appeal Brief explaining clearly and in detail why the final rejections of Claims 1-46 are improper and should be reversed by the Board of Patent Appeals and Interferences. In the Examiner's Answer, the rejections are sustained.

Argument

Appellants filed an Appeal Brief on April 15, 2008 explaining clearly and in detail why the rejections in the final Office Action mailed November 19, 2007 (the "Office Action") of Claims 1-3, 5-10, 12-14, 16-18, and 20-46 under 35 U.S.C. § 102(e) as being anticipated by *Way* are improper and should be reversed by the Board and why the rejections of Claims 4, 11, 15 and 19 under 35 U.S.C. § 103(a) as being unpatentable over *Way* in view of *Johnson* are improper and should be reversed by the Board.

In the Examiner's Answer, the Examiner responds to these arguments. *See* Examiner's Answer, pages 6-18. Appellants reply to the Examiner's responses below.

I. Appellants' Reply to Examiner's Responses Regarding the teaching of *Way* as Applied to Claims 35-46

In the Appeal Brief, Appellants point out the lack of disclosure in *Way* of the elements of Claims 35-46. *See* Appeal Brief, pages 19-20. In particular, Appellants note that *Way* fails to disclose a plurality of hub nodes, each operable to passively add and drop traffic from the ring, forming a plurality of photonic domains each operable to communicate different traffic streams in the same sub-bands without interference.

The Examiner initially responds to Appellants pointing out that *Way* fails to disclose a plurality of hub nodes on the same ring. While Appellants appreciate and agree with the Examiner's broad reading of the claim term "comprises" and the fact that additional rings may exist in the network, it is undeniable that the claim language requires that the claimed plurality of hub nodes be coupled to the same optical ring and that the plurality of hub nodes be operable to passively add and drop traffic from that ring. Claim 35 recites the following in the order of their appearance:

- "an optical ring"
- "a plurality of nodes coupled to the optical ring" (emphasis added) (referring back to the optical ring initially introduced)
- "each node operable to passively add and drop one or more traffic streams to and from the optical ring" (emphasis added) (referring back to the optical ring initially introduced)

- "the plurality of nodes comprising a plurality of hub nodes" (emphasis added).

It is clear that the claimed plurality of hub nodes are part of the claimed plurality of nodes which are coupled to the optical ring initially introduced. Thus, by following the claim language logically it is apparent that Claim 35 discloses a plurality of hub nodes on the same ring and that the plurality of hub nodes are operable to passively add and drop traffic to and from that ring. This is in direct contrast with the disclosure of *Way* which the Examiner describes as "an optical network (Figure 19) that comprises not one, but three optical rings." Examiner's Answer, page 7.

In addition, Claim 35 recites that the plurality of hub nodes, each operable to passively add and drop traffic from the ring, form a plurality of photonic domains each operable to communicate different traffic streams in the same sub-bands without interference. In response to Appellants' contention that these elements are not disclosed in *Way*, the Examiner contends that *Way* discloses these elements by relying on "Figure[] 6 for disclosure of the claimed subband nodes, Figure 13 for disclosure of the claimed non-interfering communication traffic streams in the same subbands, and Figure 19 as disclosing the plurality of hub nodes and plurality of photonic domains." Examiner's Answer, page 12. However, Figure 19 does not even disclose a plurality of hub nodes. According to *Way*, Figure 19 includes a single "all-optical hub 142" that separates optical signals in each ring 112 and 144 and that includes couplers 148 and splitters 146. Moreover, there is no disclosure of the formation of photonic domains each operable to communicate different traffic streams in the same sub-bands without interference. Despite the fact that the Examiner merely relies on different rings to constitute the photonic domains, even this fails. For example, the discussion with respect to Figure 13 on which the Examiner relies explicitly states that bands 62, 64, and 66 are separately assigned to the illustrated rings. Thus, Figure 13 at a minimum discloses "different" bands assigned to rings as opposed to traffic in the "same sub-bands" as claimed. Therefore, notwithstanding the fact that as discussed above there is no disclosure of the plurality of hub nodes on the same ring and operable to passively add and drop traffic to and from the ring, the Examiner's mere conjecture as to possibilities of *Way*'s disclosures in three different figures and embodiments fails to meet the explicit requirements that in order to anticipate a claim, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim," and "[t]he elements must be arranged as required by the claim."

Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131 (emphasis added). It is clear that *Way* fails to disclose a plurality of hub nodes, each operable to passively add and drop traffic from the ring, forming a plurality of photonic domains each operable to communicate different traffic streams in the same sub-bands without interference.

II. Appellants' Reply to Examiner's Responses Regarding the teaching of *Way* as Applied to Claims 1-7, 16-22, and 23-28

In the Appeal Brief, Appellants point out the lack of disclosure in *Way* of the elements of Claims 1-7, 16-22, and 23-28. *See* Appeal Brief, pages 21-22. In particular, Appellants note that *Way* fails to disclose a hub node operable to passively add and drop one or more traffic streams to and from an optical ring and operable to selectively pass or terminate a plurality of individual sub-bands is one of these plurality of nodes.

In response, the Examiner contends that "the claim language does not require that the hub node be operable to perform all of these function[s]." Examiner's Answer, page 12. Again, while Appellants appreciate and agree with the Examiner's broad reading of the claim term "comprising" and the fact that additional nodes exist in the network, it is undeniable that the claim language requires that the claimed hub node be operable to passively add and drop one or more traffic streams to and from an optical ring and be operable to selectively pass or terminate a plurality of individual sub-bands is one of these plurality of nodes. Claim 1 recites the following in the order of their appearance:

- "a plurality of nodes coupled to the optical ring"
- "each node operable to passively add and drop one or more traffic streams to and from the optical ring" (emphasis added) (thus, each of the plurality of nodes must be operable to passively add and drop such traffic)
- "the plurality of nodes comprising . . . a hub node operable to selectively pass or terminate a plurality of individual sub-bands of the optical traffic"

It is therefore clear and undeniable that each of the claimed plurality of nodes must be operable to passively add and drop traffic and that the hub node, which is operable to selectively pass or terminate a plurality of individual sub-bands of traffic, is one of such plurality of nodes. Thus, by following the claim language logically it is apparent that Claim 1 discloses a hub node that is operable to passively add and drop one or more traffic streams to

and from an optical ring and operable to selectively pass or terminate a plurality of individual sub-bands.

The Examiner then contends that even if the claim language requires that the hub node be operable to passively add and drop traffic to and from the ring and be operable to selectively pass or terminate a plurality of individual sub-bands, that *Way*'s hub node 24 of Figure 6 discloses this because of its switching operation at switch 22. *See* Examiner's Answer, page 14. To support this assertion, the Examiner relies on a confusing and illogical argument suggesting that the *same switch* 22 can both passively add and drop traffic to and from the ring and selectively pass or terminate a plurality of individual sub-bands. The Examiner states that *Way*'s "hub node can be considered as adding an optical signal to the left side of the ring from the right side of the ring when switch 22 is transitioning from an open position to a closed position." However, the claim requires that traffic be added and dropped to and from the ring, not from one *side* of the ring to another. Moreover, the claim requires that the adding and dropping be passive, which switch 22 is not. There is no disclosure in *Way* of a hub node operable to passively add and drop one or more traffic streams to and from an optical ring and operable to selectively pass or terminate a plurality of individual sub-bands is one of these plurality of nodes.

III. Appellants' Reply to Examiner's Responses Regarding the teaching of *Way* as Applied to Claims 8-11 and 29-31

In the Appeal Brief, Appellants point out the lack of disclosure in *Way* of the elements of Claims 8-11 and 29-31. *See* Appeal Brief, pages 22-24. In particular, Appellants note that *Way* fails to disclose a hub node transport element operable to selectively pass or terminate from continuing on the optical ring a plurality of individual sub-bands.

In response, the Examiner relies on *Way*'s description of broadband couplers 120 which states that "the drop ports of broadband couplers 120 can each include a wavelength dependent tunable filter 120 which reflects non-selected wavelengths to a through port for one cascaded three-port optical add/drop filter to an adjacent cascaded three-port optical add/drop filter." Examiner's Answer, page 15. The Examiner then surmises that if a wavelength is selected then it will not be reflected back onto the ring and will be dropped. *See* Examiner's Answer, page 16. The Examiner also suggests that if traffic is 100% dropped

then it does not continue on the ring. *See id.* However, there is no support for these suppositions of the Examiner. One of ordinary skill in the art is well aware that a coupler both drops and continues traffic on a ring. The fact that *Way* discloses that coupler 120 can drop certain wavelengths or all wavelengths does not mean that the dropped wavelengths are not also continued on the ring as is the case in normal coupler operation. Therefore there is no disclosure of a hub node transport element operable to selectively pass or terminate from continuing on the optical ring a plurality of individual sub-bands.

IV. Appellants' Reply to Examiner's Responses Regarding the teaching of *Way* as Applied to Claims 12-15 and 32-34

In the Appeal Brief, Appellants point out the lack of disclosure in *Way* of the elements of Claims 12-15 and 32-34. *See* Appeal Brief, pages 24-25. In particular, Appellants note that *Way* fails to disclose a hub node transport element operable to passively add and drop one or more traffic streams to and from an optical ring and operable to selectively pass or terminate a plurality of individual sub-bands and also fails to disclose a sub-band node operable to passively add and drop one or more traffic strings to and from a ring and terminate a respective sub-band of the optical traffic.

In response, the Examiner reiterates the illogical argument that when *Way*'s switch 22 is transitioning from an open position to a closed position then the hub node can be considered as adding an optical signal to the left side of the ring from the right side of the ring. As stated above in Section III, the claim requires that traffic be added and dropped to and from the ring, not from one *side* of the ring to another. Moreover, the claim requires that the adding and dropping be passive, which switch 22 is not. There is no disclosure in *Way* of a hub node transport element operable to passively add and drop one or more traffic streams to and from an optical ring and operable to selectively pass or terminate a plurality of individual sub-bands is one of these plurality of nodes.

Conclusion

Appellants have demonstrated, through their Appeal Brief and this Reply Brief, that the present invention, as claimed, is clearly distinguishable over the prior art cited by the Examiner. Therefore, Appellants respectfully request the Board of Patent Appeals and Interferences to reverse the Examiner's final rejection of the pending claims and instruct the Examiner to issue a notice of allowance of all pending claims.

Appellants believe no fees are due in the filing of this Reply Brief. However, the Commissioner is hereby authorized to charge any fee and credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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